

Project Design Phase
Problem – Solution Fit Template

Date	15 February 2025
Team ID	LTVIP2025TMID33633
Project Name	GrainPalette-a deep learning Odyssey in rice type classification
Maximum Marks	2 Marks

Problem – Solution Fit Template:

The Problem-Solution Fit simply means that you have found a real world problem to our target users–farmers– and designed a solution that can effectively address their problem. It helps the farmers to adjust their agricultural practices such as fertilization ,pests etc based on rice type.

Purpose:

- ☐ Solve complex problems in a way that they can easily identify the type of rice grains.
- ☐ To deliver the affordable AI solution for real time rice grain classification
- ☐ To Enhance grain quality check through intelligent automate system.
- ☐ Increase touch-points with your company by finding the right problem-behavior fit and building trust by solving frequent annoyances, or urgent or costly problems.
- ☐ **Understand the existing situation in order to improve it for your target group.**

Template:

GrainPalette - a deep learning odyssey

GrainPalette- a deep learning
odyssey in rice grain classification

Purpose / Vision

Unlabeled Problem

1. CUSTOMER SEGMENT(S)

CS

Bulk rice mill, Rice traders

Solution: The need for a solution that involves deep learning needs to have deep learning to analyze rice grain morphology and automatically classify them into four categories: full, broken.

Logistics Problem - assessment

2. JOBS-TO-BE-DONE / PROBLEM

JD

Manual inspection of rice grain for quality control based on characteristics like cracks and chalky etc. Due to characteristics like cracks prone to different biases among experts.

3. PROBLEM ROOT CAUSE

RC

Using human experts: experts set of experts in field on experts (Cost), to human experts: delicate subjective reason selection's mutation. etc.

Triggers / Issues

4. TRIGGERS

Lack of expertise, variation in different experts; opinions. Cost of experts, and subjectivity of grading funnel

8. EMOTIONS:: BEFORE / AFTER

Before: the users: quality

10, YOUR SOLUTION

SL

An AI system provides an app: deep learning to analyze and classify rice grains into one of the four defined categories, i.e.g. potentially saving costs on manual inspection and improving quality of the grading pipeline.

CHANNELS of BEHAVIOUR

1. <https://www.ideahackers.network/problem-solution-fit-canvas/>

2. <https://medium.com/@epicantus/problem-solution-fit-canvas-aa3dd59cb4fe>